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Search for

NiceZyme View of ENZYME: EC 3.3.1.1

Official Name	
Adenosylhomocysteinase.	
Alternative Name(s)	
S-adenosyl-L-homocysteine hydrolase.	
Reaction catalysed	
S-adenosyl-L-homocysteine + H(2)O <=> adenosine + L-homocysteine	
Human Genetic Disease(s)	
Hypermethioninemia	MIM:180960
Cross-references	
Biochemical Pathways; map number(s)	H3
PROSITE	PDOC00603
BRENDA	3.3.1.1
EMP/PUMA	3.3.1.1
WIT	3.3.1.1
Kyoto University LIGAND chemical database	3.3.1.1
IUBMB Enzyme Nomenclature	3.3.1.1
IntEnz	3.3.1.1
MEDLINE	Find literature relating to 3.3.1.1
	P51893, SAH1_XENLA; P50245, SAH2_DROME; O43865, SAH2_HUMAN; O93477, SAH2_XENLA; Q96HN2, SAH3_HUMAN; Q9YEF2, SAHH_AERPE; Q8UJ99, SAHH_AGRT5; Q8YX05, SAHH_ANASP; O76757, SAHH_ANOGA; O67240, SAHH_AQUAE; O23255, SAHH_ARATH; O28279, SAHH_ARCFU; Q8A407, SAHH_BACTN; Q89HP6, SAHH_BRAJA; Q8YE49, SAHH_BRUME; Q8FXZ7, SAHH_BRUSU; P27604, SAHH_CAEEL; P35007, SAHH_CATRO; Q9ABH0, SAHH_CAUCR; Q8KEG8, SAHH_CHLTE; Q8FRJ4, SAHH_COREF; Q8NSC4, SAHH_CORGL; P10819, SAHH_DICDI; Q27580, SAHH_DROME; Q9HN50, SAHH_HALN1; P23526, SAHH_HUMAN; P36889, SAHH_LEIDO; Q8EXV1, SAHH_LEPIN; Q9SP37, SAHH_LUPLU; Q9SWF5, SAHH_LYCES; P50246, SAHH_MEDSA; P93253, SAHH_MESCR; Q8TRA5, SAHH_METAC; Q58783, SAHH_METJA; P58855, SAHH_METKA; Q8PUQ4, SAHH_METMA;

Swiss-Prot	O27673 , SAHH_METTH ;	P50247 , SAHH_MOUSE ;	Q7TWW7 , SAHH_MYCBO ;
	Q9CCJ4 , SAHH_MYCLE ;	P60176 , SAHH_MYCTU ;	Q01781 , SAHH_PETCR ;
	P50249 , SAHH_PHASS ;	P50250 , SAHH_PLAF7 ;	Q12663 , SAHH_PNECA ;
	Q9I685 , SAHH_PSEAE ;	Q87V73 , SAHH_PSESM ;	Q9UYK5 , SAHH_PYRAB ;
	Q8ZTQ7 , SAHH_PYRAE ;	P50251 , SAHH_PYRFU ;	O58275 , SAHH_PYRHO ;
	Q8Y387 , SAHH_RALSO ;	P10760 , SAHH_RAT ;	Q98CM3 , SAHH_RHILO ;
	Q92TC1 , SAHH_RHIME ;	P28183 , SAHH_RHOCA ;	O50562 , SAHH_RHOSH ;
	Q9ZNA5 , SAHH_ROSDE ;	O13639 , SAHH_SCHPO ;	Q936D6 , SAHH_STRAA ;
	Q8GGL7 , SAHH_STRAZ ;	Q9KZM1 , SAHH_STRCO ;	P26799 , SAHH_STRFR ;
	P50252 , SAHH_SULSO ;	Q975T0 , SAHH_SULTO ;	Q8DGC8 , SAHH_SYNEL ;
	P74008 , SAHH_SYNY3 ;	Q9HKX4 , SAHH_THEAC ;	O51933 , SAHH_THEMA ;
	Q979Z4 , SAHH_THEVO ;	P50248 , SAHH_TOBAC ;	P51540 , SAHH_TRIVA ;
	P32112 , SAHH_WHEAT ;	Q8PP84 , SAHH_XANAC ;	Q8PCH5 , SAHH_XANCP ;
	Q9PEJ1 , SAHH_XYLFA ;	Q87EI8 , SAHH_XYLFT ;	P39954 , SAHH_YEAST ;

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L1 and yuan.in.	2

Database:

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 US Patents Full-Text Database
 US OCR Full-Text Database
 EPO Abstracts Database
 JPO Abstracts Database
 Derwent World Patents Index
 IBM Technical Disclosure Bulletins

Search:

L4

Search History

DATE: Wednesday, January 21, 2004 [Printable Copy](#) [Create Case](#)

<u>Set</u> <u>Name</u>	<u>Query</u>	<u>Hit</u> <u>Count</u>	<u>Set</u> <u>Name</u> result set
<i>DB=PGPB,USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=OR</i>			
<u>L4</u>	l1 and yuan.in.	2	<u>L4</u>
<u>L3</u>	l1 same (bind\$4 or affin\$5)	13	<u>L3</u>
<u>L2</u>	L1 same (assa\$4 or metho\$4)	8	<u>L2</u>
<u>L1</u>	HOMOCYSTEIn\$4 same(AHCY\$3 OR (ADENOSYLHOMOCYST\$5 same HYDROLAS\$3))	47	<u>L1</u>

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 10 of 13 returned.

☐ 1. Document ID: US 20040009489 A1

Using default format because multiple data bases are involved.

L3: Entry 1 of 13

File: PGPB

Jan 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040009489

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040009489 A1

TITLE: Classification of lung carcinomas using gene expression analysis

PUBLICATION-DATE: January 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Golub, Todd R.	Newton	MA	US	
Meyerson, Matthew	Concord	MA	US	
Bhattacharjee, Arindam	Andover	MA	US	
Staunton, Jane	Cambridge	MA	US	

US-CL-CURRENT: 435/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. D.
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☐ 2. Document ID: US 20030119772 A1

L3: Entry 2 of 13

File: PGPB

Jun 26, 2003

PGPUB-DOCUMENT-NUMBER: 20030119772

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030119772 A1

TITLE: Methods and compositions useful for diagnosis, staging, and treatment of cancers and tumors

PUBLICATION-DATE: June 26, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Genetta, Thomas	Atlanta	GA	US	

US-CL-CURRENT: 514/44; 435/6, 435/7.23, 435/91.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw De
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☐ 3. Document ID: US 20030049804 A1

L3: Entry 3 of 13

File: PGPB

Mar 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030049804

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030049804 A1

TITLE: Corynebacterium glutamicum genes encoding metabolic pathway proteins

PUBLICATION-DATE: March 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Pompejus, Markus	Freinsheim		DE	
Kroger, Burkhard	Limburgerhof		DE	
Schroder, Hartwig	Nussloch		DE	
Zelder, Oskar	Speyer		DE	
Haberhauer, Gregor	Limburgerhof		DE	
Kim, Jun-Won	Seoul		KR	
Lee, Heung-Shick	Seoul		KR	
Hwang, Byung-Joon	Seoul		KR	

US-CL-CURRENT: 435/115; 435/183, 435/252.3, 435/320.1, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw De
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☐ 4. Document ID: US 20020142981 A1

L3: Entry 4 of 13

File: PGPB

Oct 3, 2002

PGPUB-DOCUMENT-NUMBER: 20020142981

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020142981 A1

TITLE: Gene expression profiles in liver cancer

PUBLICATION-DATE: October 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Horne, Darci T.	Gaithersburg	MD	US	
Scherf, Uwe	Gaithersburg	MD	US	
Vockley, Joseph	Damascus	MD	US	

US-CL-CURRENT: 514/44; 435/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 5. Document ID: US 20020120960 A1

L3: Entry 5 of 13

File: PGPB

Aug 29, 2002

PGPUB-DOCUMENT-NUMBER: 20020120960

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020120960 A1

TITLE: Genetic control of fruit ripening

PUBLICATION-DATE: August 29, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bird, Colin Roger	Bracknell		GB	
Seymour, Graham Barron	Wellesbourne		GB	
Suarez, Rosybel De Jesus Medina	Brentwood		GB	

US-CL-CURRENT: 800/287; 800/290

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 6. Document ID: US 6376210 B1

L3: Entry 6 of 13

File: USPT

Apr 23, 2002

US-PAT-NO: 6376210

DOCUMENT-IDENTIFIER: US 6376210 B1

TITLE: Methods and compositions for assaying analytes

DATE-ISSUED: April 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yuan; Chong-Sheng	San Diego	CA		

US-CL-CURRENT: 435/18; 435/195, 435/23, 435/252.3, 435/320.1, 435/455

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 7. Document ID: US 6140102 A

L3: Entry 7 of 13

File: USPT

Oct 31, 2000

US-PAT-NO: 6140102

DOCUMENT-IDENTIFIER: US 6140102 A

TITLE: High specificity homocysteinases and genes therefor

DATE-ISSUED: October 31, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tan; Yuying	San Diego	CA		
Lenz; Marcin	San Diego	CA		

US-CL-CURRENT: 435/232; 435/252.3, 435/320.1, 435/4, 435/69.1, 530/300, 530/350, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequence	Chemical	Claims	KWIC	Draw D
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☐ 8. Document ID: US 6080549 A

L3: Entry 8 of 13

File: USPT

Jun 27, 2000

US-PAT-NO: 6080549

DOCUMENT-IDENTIFIER: US 6080549 A

TITLE: Methods and materials for the diagnosis and treatment of schizophrenia and related disorders

DATE-ISSUED: June 27, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Deth; Richard C.	Waban	MA		

US-CL-CURRENT: 435/7.21; 435/15, 436/501, 436/504, 436/505, 436/63, 436/804, 436/811

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequence	Chemical	Claims	KWIC	Draw D
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☐ 9. Document ID: US 6066467 A

L3: Entry 9 of 13

File: USPT

May 23, 2000

US-PAT-NO: 6066467

DOCUMENT-IDENTIFIER: US 6066467 A

TITLE: High specificity homocysteine assays for biological samples

DATE-ISSUED: May 23, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
------	------	-------	----------	---------

Xu; Mingxu	San Diego	CA
Tan; Yuying	San Diego	CA
Han; Qinghong	San Diego	CA
Tang; Li	San Diego	CA

US-CL-CURRENT: [435/23](#); [435/4](#), [435/975](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Drawings
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☐ 10. Document ID: US 5998191 A

L3: Entry 10 of 13

File: USPT

Dec 7, 1999

US-PAT-NO: 5998191

DOCUMENT-IDENTIFIER: US 5998191 A

**** See image for Certificate of Correction ****

TITLE: High specificity homocysteine assays for biological samples

DATE-ISSUED: December 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tan; Yuying	San Diego	CA		
Lenz; Martin	San Diego	CA		

US-CL-CURRENT: [435/232](#); [435/252.3](#), [435/320.1](#), [435/4](#), [435/69.1](#), [530/300](#), [530/350](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Drawings
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Search Results - Record(s) 11 through 13 of 13 returned.

☐ 11. Document ID: US 5985540 A

Using default format because multiple data bases are involved.

L3: Entry 11 of 13

File: USPT

Nov 16, 1999

US-PAT-NO: 5985540

DOCUMENT-IDENTIFIER: US 5985540 A

TITLE: High specificity homocysteine assays for biological samples

DATE-ISSUED: November 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tan; Yuying	San Diego	CA		
Lenz; Martin	San Diego	CA		

US-CL-CURRENT: 435/4; 435/232, 435/252.3, 435/320.1, 530/300, 530/350, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	SPRINT	Abstract	Claims	KWIC	Draw. De
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☐ 12. Document ID: WO 200102600 A2, GB 2368641 A, AU 200057818 A, US 6376210 B1

L3: Entry 12 of 13

File: DWPI

Jan 11, 2001

DERWENT-ACC-NO: 2001-071583

DERWENT-WEEK: 200238

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TITLE: Assaying method, useful for prognosis and diagnosis of disease, comprises contacting sample with a mutant analyte-binding enzyme and detecting binding

INVENTOR: YUAN, C

PRIORITY-DATA: 1999US-0457205 (December 6, 1999), 1999US-0347878 (July 6, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200102600 A2	January 11, 2001	E	182	C12Q001/00
GB 2368641 A	May 8, 2002		000	C12Q001/00
AU 200057818 A	January 22, 2001		000	C12Q001/00

US 6376210 B1

April 23, 2002

000

C12Q001/34

INT-CL (IPC): C07 H 21/04; C12 N 1/20; C12 N 9/14; C12 N 15/00; C12 Q 1/00; C12 Q 1/34

Full	Title	Citation	Front	Review	Classification	Date	Reference	See Also	Accum Query	Claims	KWIC	Draw De
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13. Document ID: WO 9814562 A1, JP 2002513276 W, AU 9746392 A, EP 972015 A1, NZ 335546 A, AU 744125 B, US 20020035078 A1

L3: Entry 13 of 13

File: DWPI

Apr 9, 1998

DERWENT-ACC-NO: 1998-240074

DERWENT-WEEK: 200234

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TITLE: New isolated S-adenosyl-L-homocysteine hydrolase enzyme - is used to develop products which can be used in the treatment of e.g. auto-immune disease, transplantations or cancers

INVENTOR: HART, D N J

PRIORITY-DATA: 1996NZ-0299507 (October 4, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9814562 A1	April 9, 1998	E	033	C12N009/14
JP 2002513276 W	May 8, 2002		037	C12N015/09
AU 9746392 A	April 24, 1998		000	C12N009/14
EP 972015 A1	January 19, 2000	E	000	C12N009/14
NZ 335546 A	December 22, 2000		000	C12N015/55
AU 744125 B	February 14, 2002		000	C12N009/14
US 20020035078 A1	March 21, 2002		000	A61K048/00

INT-CL (IPC): A61 K 48/00; C07 H 21/04; C07 K 16/40; C12 N 9/14; C12 N 9/64; C12 N 15/09; C12 N 15/55

Full	Title	Citation	Front	Review	Classification	Date	Reference	See Also	Accum Query	Claims	KWIC	Draw De
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☐ 1. Document ID: US 20030186352 A1

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L2: Entry 1 of 8

File: PGPB

Oct 2, 2003

PGPUB-DOCUMENT-NUMBER: 20030186352

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030186352 A1

TITLE: Apicomplexan chorismate synthase sequences and an inhibitor of the shikimate pathway

PUBLICATION-DATE: October 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
McLeod, Rima L.	Chicago	IL	US	
Kirisits, Michael	Chicago	IL	US	
Roberts, Craig W.	Kirklee	CO	GB	
Mack, Doug	Centennial	IL	US	
Mui, Ernest	Chicago	GA	US	
Barnwell, John	Stone Mountain	FL	US	
Dame, John	Gainesville	MD	US	
Carlton, Jane	Rockville	CA	US	
Bartlett, Paul	Oakland	WA	US	
Parle, Suzanna	Seattle		US	

US-CL-CURRENT: 435/32; 435/258.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Ds
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☐ 2. Document ID: US 6376210 B1

L2: Entry 2 of 8

File: USPT

Apr 23, 2002

US-PAT-NO: 6376210

DOCUMENT-IDENTIFIER: US 6376210 B1

TITLE: Methods and compositions for assaying analytes

DATE-ISSUED: April 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yuan; Chong-Sheng	San Diego	CA		

US-CL-CURRENT: [435/18](#); [435/195](#), [435/23](#), [435/252.3](#), [435/320.1](#), [435/455](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 6306618 B1

L2: Entry 3 of 8

File: USPT

Oct 23, 2001

US-PAT-NO: 6306618

DOCUMENT-IDENTIFIER: US 6306618 B1

TITLE: Homocysteine desulphurase from the protozoan trichomonas vaginalis

DATE-ISSUED: October 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Coombs; Graham Herbert	Glasgow			GB
Mottram; Jeremy Charles	Bearsden			GB
Pritchard; David John	Scone			GB
Campbell; Robert Stewart	Perth			GB

US-CL-CURRENT: [435/18](#); [435/14](#), [435/26](#), [435/4](#), [435/975](#), [530/300](#), [536/23.1](#), [536/23.2](#), [536/23.72](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 4. Document ID: US 5885767 A

L2: Entry 4 of 8

File: USPT

Mar 23, 1999

US-PAT-NO: 5885767

DOCUMENT-IDENTIFIER: US 5885767 A

TITLE: Methods and compositions for quantitating L-homocysteine and/or l-methionine in a solution

DATE-ISSUED: March 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rozzell, Jr.; J. David	Burbank	CA		

US-CL-CURRENT: [435/4](#); [435/14](#), [435/15](#), [435/23](#), [435/26](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 5. Document ID: US 5872104 A

L2: Entry 5 of 8

File: USPT

Feb 16, 1999

US-PAT-NO: 5872104

DOCUMENT-IDENTIFIER: US 5872104 A

**** See image for Certificate of Correction ****

TITLE: Combinations and methods for reducing antimicrobial resistance

DATE-ISSUED: February 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vermeulen; Nicolaas M. J.	Woodinville	WA		
Schwartz; Dennis E.	Redmond	WA		

US-CL-CURRENT: 514/29; 514/30, 514/35, 514/46

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Figures	Claims	KVMC	Draw De
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☐ 6. Document ID: US 4940658 A

L2: Entry 6 of 8

File: USPT

Jul 10, 1990

US-PAT-NO: 4940658

DOCUMENT-IDENTIFIER: US 4940658 A

TITLE: Assay for sulfhydryl amino acids and methods for detecting and distinguishing cobalamin and folic acid deficiency

DATE-ISSUED: July 10, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Allen; Robert H.	Englewood	CO		
Stabler; Sally P.	Denver	CO		
Lindenbaum; John	New York	NY		

US-CL-CURRENT: 435/4; 435/18, 436/120, 436/173, 436/174, 436/8, 436/825, 436/86,
514/249, 514/52

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Figures	Claims	KVMC	Draw De
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☐ 7. Document ID: WO 2003060478 A2

L2: Entry 7 of 8

File: DWPI

Jul 24, 2003

DERWENT-ACC-NO: 2003-587306

DERWENT-WEEK: 200355

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TITLE: Assaying homocysteine (Hcy), S-adenosylhomocysteine (SAH) or adenosine in a sample by contacting a sample containing or suspected of containing Hcy, SAH or adenosine with a mutant SAH hydrolase

INVENTOR: CHONG-SHENG, Y

PRIORITY-DATA: 2002US-0043787 (January 10, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 2003060478 A2</u>	July 24, 2003	E	103	G01N000/00

INT-CL (IPC): G01 N 0/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 8. Document ID: EP 486118 A1

L2: Entry 8 of 8

File: DWPI

May 20, 1992

DERWENT-ACC-NO: 1992-168724

DERWENT-WEEK: 200343

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TITLE: Detection and distinguishing cobalamin and folate deficiency - by assaying body fluids for total homo:cysteine and methyl:malonic acid levels

INVENTOR: ALLEN, R H; LINDENBAUM, J ; STABLER, S P

PRIORITY-DATA: 1986US-0933553 (November 20, 1986)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>EP 486118 A1</u>	May 20, 1992	E	045	G01N033/82

INT-CL (IPC): G01N 33/68; G01N 33/82

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 1. Document ID: US 6376210 B1

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L4: Entry 1 of 2

File: USPT

Apr 23, 2002

US-PAT-NO: 6376210

DOCUMENT-IDENTIFIER: US 6376210 B1

TITLE: Methods and compositions for assaying analytes

DATE-ISSUED: April 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
<u>Yuan</u> ; Chong-Sheng	San Diego	CA		

US-CL-CURRENT: 435/18; 435/195, 435/23, 435/252.3, 435/320.1, 435/455

Full	Title	Citation	Front	Review	Classification	Date	Reference	Signatures	Abstracts	Claims	KMC	Draw. Data
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☐ 2. Document ID: WO 200102600 A2, GB 2368641 A, AU 200057818 A, US 6376210 B1

L4: Entry 2 of 2

File: DWPI

Jan 11, 2001

DERWENT-ACC-NO: 2001-071583

DERWENT-WEEK: 200238

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TITLE: Assaying method, useful for prognosis and diagnosis of disease, comprises contacting sample with a mutant analyte-binding enzyme and detecting binding

INVENTOR: YUAN, C

PRIORITY-DATA: 1999US-0457205 (December 6, 1999), 1999US-0347878 (July 6, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 200102600 A2</u>	January 11, 2001	E	182	C12Q001/00
<u>GB 2368641 A</u>	May 8, 2002		000	C12Q001/00
<u>AU 200057818 A</u>	January 22, 2001		000	C12Q001/00
<u>US 6376210 B1</u>	April 23, 2002		000	C12Q001/34

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INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS,
DDFB, DDFU, DGENE, DRUGB, DRUGMONOG2, ...' ENTERED AT 18:31:48 ON 21 JAN
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SEA HOMOCYSTEI? (S)(AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))

1 FILE ADISCTI
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2 FILE BIOBUSINESS
53 FILE BIOSIS
5 FILE BIOTECHABS
5 FILE BIOTECHDS
40 FILE BIOTECHNO
16 FILE CABA
26 FILE CANCERLIT
100 FILE CAPLUS
3 FILE CEABA-VTB
9 FILE DISSABS
15 FILE DDFB
14 FILE DDFU
25 FILE DGENE
15 FILE DRUGB
16 FILE DRUGU
1 FILE EMBAL
86 FILE EMBASE
25 FILE ESBIOBASE
7* FILE FEDRIP
98 FILE GENBANK
3 FILE IFIPAT
1 FILE JICST-EPLUS
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1 FILE NIOSHTIC
2 FILE NTIS
21 FILE PASCAL
48 FILE SCISEARCH
35 FILE TOXCENTER
46 FILE USPATFULL
2 FILE USPAT2
5 FILE WPIDS
5 FILE WPINDEX

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FILE 'CAPLUS, GENBANK, EMBASE, BIOSIS, SCISEARCH, MEDLINE, USPATFULL,
BIOTECHNO, TOXCENTER, LIFESCI' ENTERED AT 18:39:08 ON 21 JAN 2004

L2 584 S HOMOCYSTEI? (S)(AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))
L3 1461 S HOMOCYSTEI? (S)(AHCY? OR SAH? OR (ADENOSYLHOMOCYST?(S) HYDROL
L4 45 S L3 (S) (VARIAN? OR MUTAT?)
L5 20 DUP REM L4 (25 DUPLICATES REMOVED)
L6 707 S L3 (S) (ASSAY? OR METH?)
L7 95 S L6 (S) (BINDI? OR AFFIN?)
L8 59 DUP REM L7 (36 DUPLICATES REMOVED)

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F9	35	TOXCENTER
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F13	25	ESBIODBASE
F14	21	PASCAL
F15	16	CABA
F16	16	DRUGU
F17	15	DDFB
F18	15	DRUGB
F19	14	DDFU
F20	9	DISSABS
F21	7*	FEDRIP
F22	5	BIOTECHABS
F23	5	BIOTECHDS
F24	5	WPIDS

F25	5	WPINDEX
F26	3	ANABSTR
F27	3	CEABA-VTB
F28	3	IFIPAT
F29	2	BIOBUSINESS
F30	2	NTIS
F31	2	USPAT2
F32	1	ADISCTI
F33	1	EMBAL
F34	1	JICST-EPLUS
F35	1	NIOSHTIC

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=> s homocystei? (s)(ahcy? or (adenosylhomocyst?(s) hydrolas?))
 L2 584 HOMOCYSTEI? (S)(AHCY? OR (ADENOSYLBHOMOCYST?(S) HYDROLAS?))

=> s homocystei? (s)(ahcy? or sah? or (adenosylhomocyst?(s) hydrolas?))
 L3 1461 HOMOCYSTEI? (S)(AHCY? OR SAH? OR (ADENOSYLBHOMOCYST?(S) HYDROLAS?
))

=> s l3 (s) (varian? or mutat?)
 L4 45 L3 (S) (VARIAN? OR MUTAT?)

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L5 ANSWER 1 OF 20 USPATFULL on STN
 TI Classification of lung carcinomas using gene expression analysis

L5 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

TI Methods and compositions for assaying homocysteine for enzymatic analysis of human mutant S-adenosylhomocysteine hydrolase and diagnostic application
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 TI Catalytic mechanism of glycine N-methyltransferase.
 L5 ANSWER 4 OF 20 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
 TI Low frequency of mutated methylenetetrahydrofolate reductase 677C.fwdarw.T and 1298A.fwdarw.C genetics single nucleotide polymorphisms (SNPs) in Sub-Saharan populations.
 L5 ANSWER 5 OF 20 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
 TI Glycine N-methyltransferase deficiency: A new patient with a novel mutation
 L5 ANSWER 6 OF 20 USPATFULL on STN
 TI Genome DNA of bacterial symbiont of aphids
 L5 ANSWER 7 OF 20 USPATFULL on STN
 TI Expressed sequences of arabidopsis thaliana
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 TI Catalytic mechanism of S-adenosylhomocysteine hydrolase. Site-directed mutagenesis of Asp-130, Lys-185, Asp-189, and Asn31-190.
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 TI Contributions of Active Site Residues to the Partial and Overall Catalytic Activities of Human S-Adenosylhomocysteine Hydrolase
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 TI LuxS: Its role in central metabolism and the in vitro synthesis of 4-hydroxy-5-methyl-3(2H)-furanone.
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 TI Methods for diagnosing, preventing, and treating developmental disorders due to a combination of genetic and environmental factors
 L5 ANSWER 12 OF 20 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN DUPLICATE 5
 TI El mice epilepsy shows genetic polymorphism for S-adenosyl-L-homocysteine hydrolase.
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 TI Abnormal folate metabolism and genetic polymorphism of the folate pathway in a child with down syndrome and neural tube defect.
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 TI RNA aptamers to S-adenosylhomocysteine: Kinetic properties, divalent cation dependency, and comparison with anti-S-adenosylhomocysteine antibody.
 L5 ANSWER 15 OF 20 USPATFULL on STN
 TI Polynucleotides encoding human S-adenosyl-5-homocysteine hydrolase derived from bladder
 L5 ANSWER 16 OF 20 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN DUPLICATE 8
 TI A single mutation at lysine 426 of human placental S-adenosylhomocysteine hydrolase inactivates the enzyme.
 L5 ANSWER 17 OF 20 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN DUPLICATE 9
 TI Amino acid changes in the L polymerase protein of vesicular stomatitis virus which confer aberrant polyadenylation and temperature-sensitive

phenotypes.

L5 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 10
TI Mutational and nucleotide sequence analysis of S-adenosyl-L-homocysteine
hydrolase from Rhodobacter capsulatus

L5 ANSWER 19 OF 20 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
TI Role of S-adenosylhomocysteine in adenosine-mediated toxicity in cultured
mouse T lymphoma cells.

L5 ANSWER 20 OF 20 GENBANK.RTM. COPYRIGHT 2004 on STN

TITLE (TI): Deciphering the biology of Mycobacterium tuberculosis
from the complete genome sequence

TITLE (TI): Re-annotation of the genome sequence of Mycobacterium
tuberculosis H37Rv

TITLE (TI): Direct Submission

=> d ibib abs 15 2 8 9 16

L5 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:571242 CAPLUS
DOCUMENT NUMBER: 139:130399
TITLE: Methods and compositions for assaying homocysteine for
enzymatic analysis of human mutant
S-adenosylhomocysteine hydrolase and diagnostic
application

INVENTOR(S): Yuan, Chong-Sheng
PATENT ASSIGNEE(S): General Atomics, USA
SOURCE: PCT Int. Appl., 103 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003060478	A2	20030724	WO 2003-US866	20030110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 2002-43787 A 20020110

AB The present invention relates to compns. and methods for assaying
homocysteine (Hcy) and thus related moieties, e.g., S-adenosylhomocysteine
(SAH) or adenosine. More particularly, assay methods that employ, mutant
SAH hydrolase having binding affinity for Hcy, SAH or adenosine but has
attenuated catalytic activity, are provided. The modified enzymes and
fusion proteins contg. the modified enzymes are also provided. Pefic
mutations include amino acid residue substitution(s) at catalytic site,
its binding site for NAD⁺, NADH, Hcy, SAH or adenosine, or a combination,
such as R38E, C53S, L54G, T57G, T57S, E59D, N80G, S83G, Y100T, K121A,
D131E, D134E, E155G, T157G, T158Y, T159Y, N181D, N181A, D190A, N191A,
L214A, Y221S, K226A, F235S, I240L, N248A, D263G, G269D, R285D, D292G,
H301T, K309R, K322G, R329A, L347F, L347Y, L3471, M351A, H353R, S361G,
F362S, Y379S, L386A, K388G, H398A, K401R, K401D, T407S, L409G, S420T,
P424A, F425S, P427A, D428G, H429A, Y430T, R431K, R431G, Y432S, Y432A, and
Y432F.

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ACCESSION NUMBER: 2002312136 EMBASE
 TITLE: Catalytic mechanism of S-adenosylhomocysteine hydrolase. Site-directed mutagenesis of Asp-130, Lys-185, Asp-189, and Asn31-190.
 AUTHOR: Takata Y.; Yamada T.; Huang Y.; Komoto J.; Gomi T.; Ogawa H.; Fujioka M.; Takusagawa F.
 CORPORATE SOURCE: F. Takusagawa, Dept. of Molecular Biosciences, 3004 Haworth Hall, University of Kansas, 1200 Sunnyside Ave., Lawrence, KS 66045-7534, United States. xraymain@ku.edu
 SOURCE: Journal of Biological Chemistry, (21 Jun 2002) 277/25 (22670-22676).
 Refs: 16
 ISSN: 0021-9258 CODEN: JBCHA3
 COUNTRY: United States
 DOCUMENT TYPE: Journal; Article
 FILE SEGMENT: 029 Clinical Biochemistry
 LANGUAGE: English
 SUMMARY LANGUAGE: English

AB **S-Adenosylhomocysteine hydrolase (AdoHcyase)** catalyzes the hydrolysis of **S-adenosylhomocysteine** to form **adenosine** and **homocysteine**. On the bases of crystal structures of the wild type enzyme and the D244E mutated enzyme complexed with 3'-keto-adenosine (D244E.ovrhdot.Ado*), we have identified the important amino acid residues, Asp-130, Lys-185, Asp-189, and Asn-190, for the catalytic reaction and have proposed a catalytic mechanism (Komoto, J., Huang, Y., Gomi, T., Ogawa, H., Takata, Y., Fujioka, M., and Takusagawa, F. (2000) J. Biol. Chem. 275, 32147-32156). To confirm the proposed catalytic mechanism, we have made the D130N, K185N, D189N, and N190S mutated enzymes and measured the catalytic activities. The catalytic rates (k(cat)) of D130N, K185N, D189N, and N190S mutated enzymes are reduced to 0.7%, 0.5%, 0.1%, and 0.5%, respectively, in comparison with the wild type enzyme, indicating that Asp-130, Lys-185, Asp-189, and Asn-190 are involved in the catalytic reaction. K(m) values of the mutated enzymes are increased significantly, except for the N190S mutation, suggesting that Asp-130, Lys-185, and Asp-189 participate in the substrate binding. To interpret the kinetic data, the oxidation states of the bound NAD molecules of the wild type and mutated enzymes were measured during the catalytic reaction by monitoring the absorbance at 340 nm. The crystal structures of the WT and D244E.ovrhdot.Ado*, containing four subunits in the crystallographic asymmetric unit, were re-refined to have the same subunit structures. A detailed catalytic mechanism of AdoHcyase has been revealed based on the oxidation states of the bound NAD and the re-refined crystal structures of WT and D244E.ovrhdot.Ado*. Lys-185 and Asp-130 abstract hydrogen atoms from 3'-OH and 4'-CH, respectively. Asp-189 removes a proton from Lys-185 and produces the neutral N.zeta. (-NH(2)), and Asn-190 facilitates formation of the neutral Lys-185. His-54 and His-300 hold and polarize a water molecule, which nucleophilically attacks the C5'- of 3'-keto-4',5'-dehydroadenosine to produce 3'-keto-Ado.

L5 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2002:409335 CAPLUS
 DOCUMENT NUMBER: 137:105654
 TITLE: Contributions of Active Site Residues to the Partial and Overall Catalytic Activities of Human S-Adenosylhomocysteine Hydrolase
 AUTHOR(S): Elrod, Philip; Zhang, Jinsong; Yang, Xiaoda; Yin, Dan; Hu, Yongbo; Borchardt, Ronald T.; Schowen, Richard L.
 CORPORATE SOURCE: Departments of Molecular Biosciences and Pharmaceutical Chemistry Simons Research Laboratories, The University of Kansas, Lawrence, KS, 66047, USA
 SOURCE: Biochemistry (2002), 41(25), 8134-8142
 CODEN: BICHAW; ISSN: 0006-2960
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Residues glutamate 156 (E156), aspartate 190 (D190), asparagine 181 (N181), lysine 186 (K186), and asparagine 191 (N191) in the active site of **S-adenosylhomocysteine (AdoHcy) hydrolase** have been mutated to alanine (A). AdoHcy hydrolase achieves catalysis of AdoHcy hydrolysis to adenosine (Ado) and **homocysteine**

(Hcy) by means of a redox partial reaction (3'-oxidn. of AdoHcy at the beginning and 3'-redn. of Ado at the end of the catalytic cycle) spanning an elimination/addn. partial reaction (elimination of Hcy from the oxidized substrate and addn. of water to generate the oxidized product), with the enzyme in an open NAD⁺ form in the ligand-free state and in a closed NADH form during the elimination/addn. partial reaction. Mutation K186A reduces the rate of a model enzymic reaction for the redox partial reaction by a factor of 280000 and the rate of a model reaction for the elimination/addn. partial reaction by a factor of 24000, consistent with a primary catalytic role in both partial reactions as a proton donor/acceptor at the 3'-OH/3'-keto center. Secondary roles for N181 and N191 in localizing the flexible side chain of K186 in a catalytically effective position are supported by rate redn. factors for N181A of 2500 (redox) and 240 (elimination/addn.) and for N191A of 730 (redox) and 340 (elimination/addn.). A role of D190 in orienting the substrate for effective transition-state stabilization is consistent with rate redn. factors of 1300 (redox) and 30 (elimination/addn.) for D190A. Residue E156 may act to maintain K186 in the desired protonation state: rate deduction factors are 1100 (redox) and 70 (elimination/addn.). The mutational increases in free energy barriers for kcat/KM are described by a linear combination of the effects for the partial reactions with the coeffs. equal to the fractional degree that each partial reaction det. the rate for kcat/KM. A similar linear equation for kcat overestimates the barrier increase by a uniform 5 kJ/mol, probably reflecting reactant-state stabilization by the wild-type enzyme that is abolished by the mutations.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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ACCESSION NUMBER: 94382630 EMBASE
DOCUMENT NUMBER: 1994382630
TITLE: A single mutation at lysine 426 of human placental S-adenosylhomocysteine hydrolase inactivates the enzyme.
AUTHOR: Ault-Riche D.B.; Yuan C.-S.; Borchardt R.T.
CORPORATE SOURCE: Dept. of Pharmaceutical Chemistry, Malott Hall, University of Kansas, Lawrence, KS 66045, United States
SOURCE: Journal of Biological Chemistry, (1994) 269/50 (31472-31478).
ISSN: 0021-9258 CODEN: JBCHA3
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English

AB **S-Adenosylhomocysteine** (AdoHcy) **hydrolase** catalyzes the conversion of AdoHcy to adenosine (Ado) and **homocysteine** (Hcy), as well as the reverse reaction, through a mechanism involving an NAD⁺-dependent oxidation of the 3'-hydroxyl group of AdoHcy (3'-oxidative activity), followed by elimination of Hcy to form 3'-keto-4',5'-didehydro-5'-deoxy-Ado. The addition of water at the 5'-position (5'-hydrolytic activity) of this tightly bound intermediate, followed by an NADH-dependent reduction, results in the formation of Ado. Based on a computer graphics model of the active site of this enzyme, it was hypothesized that amino acid residues at the carboxyl-terminal end of the protein reside in the active site of the enzyme and could play a role in catalyzing the 5'-hydrolytic reaction (Yeh, J. C., Borchardt, R. T., and Vedani, A. (1991) J. Comput. Aided Mol. Des. 5, 213-234). Using site-directed mutagenesis, we show here that lysine 426 is essential for the catalytic activity of the enzyme and that it appears to play a crucial role in the 5'-hydrolytic activity and/or stability of the quaternary structure of the human placental enzyme. Mutation of Lys-426 to arginine (K426R) produces a stable tetrameric enzyme that lacks overall catalytic activity and that was isolated predominantly as its NADH form containing tightly bound 3'-keto-Ado, suggesting that the K426R mutant has oxidative activity, but lacks 5'-hydrolytic activity, preventing it from completing the entire catalytic cycle. Mutations of Lys-426 to glutamic acid (K426E) and alanine (K426A) produce enzymes that exist primarily as monomers, do not bind NAD⁺ or NADH, and lack catalytic activity. The results of the Lys-426 mutations suggest that this

lysine residue is crucial for the 5'-hydrolytic activity of the enzyme and/or stabilizing the quaternary structure of the enzyme.

=> d his

(FILE 'HOME' ENTERED AT 18:31:20 ON 21 JAN 2004)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS, DDFB, DDFU, DGENE, DRUGB, DRUGMONOG2, ...' ENTERED AT 18:31:48 ON 21 JAN 2004

SEA HOMOCYSTEI? (S) (AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))

1 FILE ADISCTI
3 FILE ANABSTR
2 FILE BIOBUSINESS
53 FILE BIOSIS
5 FILE BIOTECHABS
5 FILE BIOTECHDS
40 FILE BIOTECHNO
16 FILE CABA
26 FILE CANCERLIT
100 FILE CAPLUS
3 FILE CEABA-VTB
9 FILE DISSABS
15 FILE DDFB
14 FILE DDFU
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47 FILE MEDLINE
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48 FILE SCISEARCH
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46 FILE USPATFULL
2 FILE USPAT2
5 FILE WPIDS
5 FILE WPINDEX

L1 QUE HOMOCYSTEI? (S) (AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))

FILE 'CAPLUS, GENBANK, EMBASE, BIOSIS, SCISEARCH, MEDLINE, USPATFULL, BIOTECHNO, TOXCENTER, LIFESCI' ENTERED AT 18:39:08 ON 21 JAN 2004

L2 584 S HOMOCYSTEI? (S) (AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))
L3 1461 S HOMOCYSTEI? (S) (AHCY? OR SAH? OR (ADENOSYLHOMOCYST?(S) HYDROL
L4 45 S L3 (S) (VARIAN? OR MUTAT?)
L5 20 DUP REM L4 (25 DUPLICATES REMOVED)

=> s l3 (s) (assay? or meth?)

3 FILES SEARCHED...
4 FILES SEARCHED...
7 FILES SEARCHED...
9 FILES SEARCHED...

L6 707 L3 (S) (ASSAY? OR METH?)

=> s l6 (s) (bindi? or affini?)

L7 95 L6 (S) (BINDI? OR AFFIN?)

=> dup rem l7

DUPLICATE IS NOT AVAILABLE IN 'GENBANK'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L7
L8 59 DUP REM L7 (36 DUPLICATES REMOVED)

=> d ti l8 1-58

L8 ANSWER 1 OF 59 USPATFULL on STN
TI Classification of lung carcinomas using gene expression analysis

L8 ANSWER 2 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN
TI Methods and compositions for assaying homocysteine for enzymatic analysis of human mutant S-adenosylhomocysteine hydrolase and diagnostic application

L8 ANSWER 3 OF 59 USPATFULL on STN
TI Yeast proteome analysis

L8 ANSWER 4 OF 59 USPATFULL on STN
TI Screening, diagnostic and therapeutic methods relating to RIZ

L8 ANSWER 5 OF 59 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding metabolic pathway proteins

L8 ANSWER 6 OF 59 USPATFULL on STN
TI S-adenosyl methionine regulation of metabolic pathways and its use in diagnosis and therapy

L8 ANSWER 7 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 1
TI Purification and kinetic characterization of the magnesium protoporphyrin IX methyltransferase from Synechocystis PCC6803.

L8 ANSWER 8 OF 59 USPATFULL on STN
TI Novel Polynucleotides

L8 ANSWER 9 OF 59 USPATFULL on STN
TI Electronic database of enzyme substrate and enzyme inhibitor structures

L8 ANSWER 10 OF 59 USPATFULL on STN
TI Gene expression profiles in liver cancer

L8 ANSWER 11 OF 59 USPATFULL on STN
TI Genome DNA of bacterial symbiont of aphids

L8 ANSWER 12 OF 59 USPATFULL on STN
TI Genetic control of fruit ripening

L8 ANSWER 13 OF 59 USPATFULL on STN
TI Expressed sequences of arabidopsis thaliana

L8 ANSWER 14 OF 59 USPATFULL on STN
TI Expressed sequences of arabidopsis thaliana

L8 ANSWER 15 OF 59 USPATFULL on STN
TI Polynucleotides and polypeptides derived from corn ear

L8 ANSWER 16 OF 59 USPATFULL on STN
TI Methods and compositions for assaying analytes

L8 ANSWER 17 OF 59 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
TI The kinetic mechanism of phage T4 DNA-[N6-adenine]-methyltransferase

L8 ANSWER 18 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 2
TI The receptor docking segment and S-adenosyl-L-homocysteine bind independently to the methyltransferase of bacterial chemotaxis.

L8 ANSWER 19 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN
TI High expression and production of high-specific activity recombinant s-adenosyl homocysteinase (SAHH) and improved assays for

s-adenosylmethionine (SAM) and therapeutic uses thereof

- L8 ANSWER 20 OF 59 USPATFULL on STN
TI Genomic DNA sequences of ashbya gossypii and uses thereof
- L8 ANSWER 21 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 3
TI Computational characterization of substrate binding and catalysis in
S-adenosylhomocysteine hydrolase.
- L8 ANSWER 22 OF 59 USPATFULL on STN
TI Methods and materials for the diagnosis and treatment of schizophrenia
and related disorders
- L8 ANSWER 23 OF 59 USPATFULL on STN
TI S-adenosyl methionine regulation of metabolic pathways and its use in
diagnosis and therapy
- L8 ANSWER 24 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 4
TI Increase in plasma homocysteine associated with parallel increases in
plasma S-adenosylhomocysteine and lymphocyte DNA hypomethylation.
- L8 ANSWER 25 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 5
TI RNA aptamers to S-adenosylhomocysteine: Kinetic properties, divalent
cation dependency, and comparison with anti-S-adenosylhomocysteine
antibody.
- L8 ANSWER 26 OF 59 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
TI Structure and function of S-adenosylhomocysteine hydrolase
- L8 ANSWER 27 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 6
TI Crystal structure of S-adenosylhomocysteine hydrolase from rat liver.
- L8 ANSWER 28 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 7
TI Effects of tolcapone upon soluble and membrane-bound brain and liver
catechol-O-methyltransferase
- L8 ANSWER 29 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 8
TI Structure determination of selenomethionyl S-adenosylhomocysteine
hydrolase using data at a single wavelength.
- L8 ANSWER 30 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 9
TI 4'-O-methyltransferase from citrus. A comparative study in Citrus
aurantium, C. paradisi and tangelo Nova
- L8 ANSWER 31 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 10
TI Localization of a cytokinin-binding protein CBP57/S-adenosyl-L-
homocysteine hydrolase in a tobacco root
- L8 ANSWER 32 OF 59 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Study of the equilibrium interaction of T4 phage Dam-DNA-(N-adenine)-
methyltransferase with substrates and ligands by fluorescence quenching
method.
- L8 ANSWER 33 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 11
TI Apoptosis of L1210 leukemia cells induced by 3-deazaadenosine analogs:
Differential expression of c-myc, NF-kappa B and molecular events.
- L8 ANSWER 34 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 12
TI Fluorescence quenching study of equilibrium binding of phage T4 Dam
DNA-[N6-adenine]-methyltransferase with substrates and ligands
- L8 ANSWER 35 OF 59 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
TI A CYTOKININ-BINDING PROTEIN COMPLEX FROM TOBACCO-LEAVES - THE 57 KDA
SUBUNIT HAS HIGH HOMOLOGY TO S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

L8 ANSWER 36 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 13
 TI Purification and characterization of myo-inositol 6-O-methyltransferase from *Vigna umbellata*.

L8 ANSWER 37 OF 59 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
 TI THE MAJOR CYTOKININ-BINDING PROTEINS FROM MAIZE ARE NOT ASSOCIATED WITH S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE ACTIVITY

L8 ANSWER 38 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN
 TI Characterization of a nucleolar 2'-O-methyltransferase and its involvement in the methylation of mouse precursor ribosomal RNA.

L8 ANSWER 39 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN DUPLICATE 14
 TI Purification and characterization of calmodulin (lysine 115) N-methyltransferase from *Paramecium tetraurelia*.

L8 ANSWER 40 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN DUPLICATE 15
 TI Effects of the transmethylation inhibitor S-adenosyl-homocysteine and of the methyl donor S-adenosyl-methionine on rat Leydig cell function in vitro.

L8 ANSWER 41 OF 59 LIFESCI COPYRIGHT 2004 CSA on STN
 TI Inhibition of ovarian SAH-hydrolase in *Pyrrhocoris apterus*, sterilized with (S)-9-(2,3-dihydroxypropyl)adenine.

L8 ANSWER 42 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN
 TI [The mode of action of cyclic AMP in prokaryotes and eukaryotes: CAP and cAMP dependent protein kinases].
 LE MODE D'ACTION DE L'AMP CYCLIQUE CHEZ LES PROCARYOTES ET LES EUCARYOTES, CAP ET PROTEINE KINASES AMPC DEPENDANTES.

L8 ANSWER 43 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 16
 TI Phospholipid methylase activity, [3H]S-adenosyl-L-homocysteine binding, and S-adenosyl-L-methionine and S-adenosyl-L-homocysteine levels in rat brain during maturation

L8 ANSWER 44 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN
 TI SAH analogs, modified in the aminoacid region, inhibitors of phosphatidylethanolamine methylase activity and 3H-SAH binding to rat brain membranes.

L8 ANSWER 45 OF 59 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 TI PHOSPHATIDYL ETHANOLAMINE METHYLATION IN MEMBRANES FROM RAT CEREBRAL CORTEX EFFECT OF EXOGENOUS PHOSPHO LIPIDS AND S ADENOSYL HOMO CYSTEINE.

L8 ANSWER 46 OF 59 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 DUPLICATE 17
 TI AFFINITY CHROMATOGRAPHY OF RUTA-GRAVEOLENS O METHYL TRANSFERASES STUDIES DEMONSTRATING THE POTENTIAL OF THE TECHNIQUE IN THE MECHANISTIC INVESTIGATION OF O METHYL TRANSFERASES.

L8 ANSWER 47 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN
 TI Potential inhibitors of S adenosylmethionine dependent methyltransferases. 6. Structural modifications of S adenosylmethionine.

L8 ANSWER 48 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN
 TI Potential inhibitors of S adenosylmethionine dependent methyltransferases. 4. Further modifications of the amino acid and base portions of S adenosyl L homocysteine.

L8 ANSWER 49 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN
 TI Potential inhibitors of S adenosylmethionine dependent methyltransferases. 3. Modifications of the sugar portion of S adenosylhomocysteine.

L8 ANSWER 50 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
TI Potential inhibitors of S adenosylmethionine dependent methyltransferases.
2. Modification of the base portion of S adenosylhomocysteine.

L8 ANSWER 51 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
TI Potential inhibitors of S adenosylmethionine dependent methyltransferases.
I. Modification of the amino acid portion of S adenosylhomocysteine.

L8 ANSWER 52 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
TI Catechol O methyltransferase.

L8 ANSWER 53 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
TI Studies on synthetic inhibitors of t RNA methyl transferases: analogs of S
adenosyl homocysteine.

L8 ANSWER 54 OF 59 GENBANK.RTM. COPYRIGHT 2004 on STN
TITLE (TI): Deciphering the biology of Mycobacterium tuberculosis
from the complete genome sequence
TITLE (TI): Re-annotation of the genome sequence of Mycobacterium
tuberculosis H37Rv
TITLE (TI): Direct Submission

L8 ANSWER 55 OF 59 GENBANK.RTM. COPYRIGHT 2004 on STN
TITLE (TI): The complete genome sequence and analysis of
Corynebacterium diphtheriae NCTC13129
TITLE (TI): Direct Submission

L8 ANSWER 56 OF 59 GENBANK.RTM. COPYRIGHT 2004 on STN
TITLE (TI): Complete genome sequence of the marine planctomycete
Pirellula sp. strain 1
TITLE (TI): Direct Submission

L8 ANSWER 57 OF 59 GENBANK.RTM. COPYRIGHT 2004 on STN
TITLE (TI): The complete genome sequence of Mycobacterium bovis
TITLE (TI): Direct Submission

L8 ANSWER 58 OF 59 GENBANK.RTM. COPYRIGHT 2004 on STN
TITLE (TI): Complete genome sequence of the model actinomycete
Streptomyces coelicolor A3(2)
TITLE (TI): Direct Submission

=> d ti l8 59

L8 ANSWER 59 OF 59 GENBANK.RTM. COPYRIGHT 2004 on STN
TITLE (TI): Massive gene decay in the leprosy bacillus
TITLE (TI): Direct Submission

=> d ibib abs l8 6 16 19 21 26 44 47

L8 ANSWER 6 OF 59 USPATFULL on STN
ACCESSION NUMBER: 2003:197132 USPATFULL
TITLE: S-adenosyl methionine regulation of metabolic pathways
and its use in diagnosis and therapy
INVENTOR(S): Schwartz, Dennis E., Redmond, WA, United States
Vermeulen, Nicolaas M. J., Woodinville, WA, United
States
O'Day, Christine L., Mountlake Terrace, WA, United
States

PATENT ASSIGNEE(S): MediQuest Therapeutics, Inc., Seattle, WA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6596701	B1	20030722
	WO 9633703		19961031
APPLICATION INFO.:	US 1998-930128		19980316 (8)
	WO 1996-US5799		19960425
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1995-476447, filed on 7 Jun 1995, now abandoned Continuation-in-part of Ser. No. US 1995-428963, filed on 25 Apr 1995		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Swartz, Rodney P		
LEGAL REPRESENTATIVE:	Morrison & Foerster LLP		
NUMBER OF CLAIMS:	21		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	15 Drawing Figure(s); 15 Drawing Page(s)		
LINE COUNT:	4938		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A new paradigm of disease centers around the metabolic pathways of S-adenosyl-L-methionine (SAM), the intermediates of these pathways and other metabolic pathways influenced by the SAM pathways. Methods are provided to analyze and modulate SAM pathways associated with a disease or condition. Such methods permit identification and utilization of diagnostic and therapeutic protocols and agents for such disease states and conditions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 16 OF 59 USPATFULL on STN
ACCESSION NUMBER: 2002:88231 USPATFULL
TITLE: Methods and compositions for assaying analytes
INVENTOR(S): Yuan, Chong-Sheng, San Diego, CA, United States
PATENT ASSIGNEE(S): General Atomics, San Diego, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6376210	B1	20020423
APPLICATION INFO.:	US 1999-347878		19990706 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Achutamurthy, Ponnathapu		
ASSISTANT EXAMINER:	Saidha, Tekchand		
LEGAL REPRESENTATIVE:	Morrison & Foerster LLP		
NUMBER OF CLAIMS:	16		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 4 Drawing Page(s)		
LINE COUNT:	9004		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions and **methods** for **assaying** analytes, preferably, small molecule analytes. **Assay methods** that employ, in place of antibodies or molecules that bind to target analytes or substrates, modified enzymes, called substrate trapping enzymes. These modified enzymes retain **binding affinity** or have enhanced **binding affinity** for a target substrate or analyte, but have attenuated catalytic activity with respect to that substrate or analyte. The modified enzymes are also provided. In particular, a mutant S-adenosylhomocysteine (SAH) hydrolases, substantially retaining **binding affinity** or having enhanced **binding affinity** for Hcy or SAH but having attenuated catalytic activity, are provided. Also provided are **methods**, combinations, kits and articles of manufacture for **assaying** analytes, preferably small molecule analytes such as inorganic ions, amino acids (e.g., homocysteine), peptides, nucleosides, nucleotides, oligonucleotides, vitamins, monosaccharides (e.g., glucose), oligosaccharides, lipids (e.g., cholesterol), organic acids (e.g., folate species, bile acids and uric acids).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 19 OF 59 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:526212 CAPLUS

DOCUMENT NUMBER: 135:119238

TITLE: High expression and production of high-specific activity recombinant s-adenosyl homocysteinase (SAHH) and improved assays for s-adenosylmethionine (SAM) and therapeutic uses thereof

INVENTOR(S): Hoffman, Robert M.; Xu, Mingxu; Han, Qinghong

PATENT ASSIGNEE(S): Anticancer, Inc., USA

SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001051651	A2	20010719	WO 2001-US1114	20010112
WO 2001051651	A3	20020110		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002119491	A1	20020829	US 2001-759990	20010112
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EP 1250448	A2	20021023	EP 2001-900999	20010112
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.: US 2000-176444P P 20000114

WO 2001-US1114 W 20010112

AB The invention provides novel methods relating to SAM detection and prodn. as well as a novel SAHH enzymic activity for use in such methods. Addnl. methods, compns., and kits relating to the novel SAHH are also provided. The invention provides an isolated and recombinant DNA encoding modified *Trichomonas vaginalis* SAHH. In another aspect, the SAHH gene is also modified to encode a modified HisoSAHH, which has an extra six histidines, in the N-terminal of the SAHH gene. In another aspect of the invention, the invention provides methods for the propagation and maintenance of the nucleic acids and their use in the expression of SAHH proteins. The methods may be used as part of a diagnostic protocol or as part of a therapeutic protocol to monitor the conditions or progress of the therapy.

L8 ANSWER 21 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 3

ACCESSION NUMBER: 2001441511 EMBASE

TITLE: Computational characterization of substrate binding and catalysis in S-adenosylhomocysteine hydrolase.

AUTHOR: Hu Y.; Yang X.; Yin D.H.; Mahadevan J.; Kuczera K.; Schowen R.L.; Borchardt R.T.

CORPORATE SOURCE: Y. Hu, Department of Pharmaceut. Chemistry, University of Kansas, Lawrence, KS 66045-2106, United States. ybhu@ku.edu

SOURCE: Biochemistry, (18 Dec 2001) 40/50 (15143-15152).

Refs: 24

ISSN: 0006-2960 CODEN: BICHAW

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB S-Adenosylhomocysteine (AdoHcy) hydrolase catalyzes the reversible hydrolysis of AdoHcy to adenosine (Ado) and homocysteine (Hcy), playing an essential role in modulating the cellular Hcy levels and regulating activities of a host of

methyltransferases in eukaryotic cells. This enzyme exists in an open conformation (active site unoccupied) and a closed conformation (active site occupied with substrate or inhibitor) [Turner, M. A., Yang, X., Yin, D., Kuczera, K., Borchardt, R. T., and Howell, P. L. (2000) *Cell Biochem. Biophys.* 33, 101-125]. To investigate the **binding** of natural substrates during catalysis, the computational docking program AutoDock (with confirming calculations using CHARMM) was used to predict the **binding** modes of various substrates or inhibitors with the closed and open forms of AdoHcy **hydrolase**. The results have revealed that the interaction between a substrate and the open form of the enzyme is nonspecific, whereas the **binding** of the substrate in the closed form is highly specific with the adenine moiety of a substrate as the main recognition factor. Residues Thr57, Glu59, Glu156, Gln181, Lys186, Asp190, Met351, and His35 are involved in substrate **binding**, which is consistent with the crystal structure. His55 in the docked model appears to participate in the elimination of water from Ado through the interaction with the 5'-OH group of Ado. In the same reaction, Asp131 removes a proton from the 4' position of the substrate after the oxidation-reduction reaction in the enzyme. To identify the residues that bind the Hcy moiety, AdoHcy was docked to the closed form of AdoHcy **hydrolase**. The Hcy tail is predicted to interact with His55, Cys79, Asn80, Asp131, Asp134, and Leu344 in a strained conformation, which may lower the reaction barrier and enhance the catalysis rate.

L8 ANSWER 26 OF 59 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

ACCESSION NUMBER: 2001:115855 SCISEARCH

THE GENUINE ARTICLE: 397MY

TITLE: Structure and function of S-adenosylhomocysteine hydrolase

AUTHOR: Turner M A (Reprint); Yang X D; Yin D; Kuczera K; Borchardt R T; Howell P L

CORPORATE SOURCE: Hosp Sick Children, 555 Univ Ave, Toronto, ON M5G 1X8, Canada (Reprint); Hosp Sick Children, Toronto, ON M5G 1X8, Canada; Univ Kansas, Dept Mol Biosci, Lawrence, KS 66045 USA; Univ Kansas, Dept Pharmaceut Chem, Lawrence, KS 66045 USA; Univ Kansas, Dept Chem, Lawrence, KS 66045 USA; Univ Toronto, Fac Med, Dept Biochem, Toronto, ON M5S 1A8, Canada

COUNTRY OF AUTHOR: Canada; USA

SOURCE: CELL BIOCHEMISTRY AND BIOPHYSICS, (FEB 2000) Vol. 33, No. 2, pp. 101-125.

Publisher: HUMANA PRESS INC, 999 RIVERVIEW DRIVE SUITE 208, TOTOWA, NJ 07512 USA.

ISSN: 1085-9195.

DOCUMENT TYPE: General Review; Journal

LANGUAGE: English

REFERENCE COUNT: 107

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB In mammals, **S-adenosylhomocysteine hydrolase** (AdoHcyase) is the only known enzyme to catalyze the breakdown of **S-adenosylhomocysteine** (AdoHcy) to **homocysteine** and **adenosine**. AdoHcy is the product of all adenosylmethionine (AdoMet)-dependent biological transmethylation. These reactions have a wide range of products, and are common in all facets of biometabolism. As a product inhibitor, elevated levels of AdoHcy suppress AdoMet-dependent transmethylation. Thus, AdoHcyase is a regulator of biological transmethylation in general. The three-dimensional structure of AdoHcyase complexed with reduced nicotinamide adenine dinucleotide phosphate (NADH) and the inhibitor (1'R, 2'5, 3'R)-9- (2',3'-dihydroxycyclopenten-1-yl)adenine (DHCEA) was solved by a combination of the crystallographic direct **methods** program, SnB, to determine the selenium atom substructure and by treating the multiwavelength anomalous diffraction data as a special case of multiple isomorphous replacement. The enzyme architecture resembles that observed for NAD-dependent dehydrogenases, with the catalytic domain and the cofactor-**binding** domain each containing a modified Rossmann fold. The two domains form a deep active site cleft containing the cofactor and bound inhibitor molecule. A comparison of the inhibitor complex of the human enzyme and the structure of the rat enzyme, solved without inhibitor, suggests that a 17 degrees rigid body movement of the catalytic domain occurs upon inhibitor/substrate **binding**.

L8 ANSWER 44 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN

ACCESSION NUMBER: 82242286 EMBASE
DOCUMENT NUMBER: 1982242286
TITLE: SAH analogs, modified in the aminoacid region, inhibitors
of phosphatidylethanolamine methylase activity and 3H-SAH
binding to rat brain membranes.
AUTHOR: Fonlupt P.; Rey C.; Pacheco H.
CORPORATE SOURCE: Lab. Chimie Biol., Batiment 406, 69621 Villeurbanne Cedex,
France
SOURCE: Life Sciences, (1982) 31/7 (655-659).
CODEN: LIFSAK
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal
FILE SEGMENT: 023 Nuclear Medicine
037 Drug Literature Index
029 Clinical Biochemistry
008 Neurology and Neurosurgery
LANGUAGE: English

AB The study of phosphatidylethanolamine **methylase** inhibition by 10
SAH analogs points out the importance of the L-
homocysteine amino and carboxylic groups and the sulfur atom for
the activity of SAH. Besides, the inhibition of
phosphatidylethanolamine **methylase** by SAH analogs is
correlated with their **affinity** for the 3H-SAH
binding sites on the rat cortical membrane.

L8 ANSWER 47 OF 59 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN

ACCESSION NUMBER: 77148395 EMBASE
DOCUMENT NUMBER: 1977148395
TITLE: Potential inhibitors of S adenosylmethionine dependent
methyltransferases. 6. Structural modifications of S
adenosylmethionine.
AUTHOR: Borchardt R.T.; Wu Y.S.; Huber J.A.; Wycpalek A.F.
CORPORATE SOURCE: Dept. Biochem., McCollum Lab., Univ. Kans., Lawrence, Kans.
66044, United States
SOURCE: Journal of Medicinal Chemistry, (1976) 19/9 (1104-1110).
CODEN: JMCMAR
DOCUMENT TYPE: Journal
FILE SEGMENT: 037 Drug Literature Index
030 Pharmacology
LANGUAGE: English

AB Structural analogues of S adenosyl L **methionine** (SAM), with
modifications in the amino acid, sugar, or base portions of the molecule,
have been synthesized and evaluated as either inhibitors and/or substrates
for the enzymes catechol O **methyltransferase**, phenylethanolamine
N **methyltransferase**, histamine N **methyltransferase**,
and hydroxyindole O **methyltransferase**. To evaluate these
analogues as substrates for SAM dependent **methyltransferases**,
the corresponding **methyl** 14C compounds were prepared and tested
for their abilities to donate their **methyl** group to the
appropriate acceptor molecules. In addition, the unlabeled SAM analogues
were tested for their inhibitory activities in these same transmethylation
reactions. In general, it could be concluded from these studies that
methyltransferases show very strict specificity for the structural
features of SAM. This strict specificity holds for the enzymatic
binding and **methyl** donating abilities of this molecule.
In fact, it could be concluded from the results of this study that
methyltransferases show a higher specificity for the structural
features of the substrate L SAM than for the structural features of the
product S adenosyl L **homocysteine** (L SAH).

=> d his

(FILE 'HOME' ENTERED AT 18:31:20 ON 21 JAN 2004)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,

CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS, DDFB, DDFU, DGENE, DRUGB, DRUGMONOG2, ...' ENTERED AT 18:31:48 ON 21 JAN 2004

SEA HOMOCYSTEI? (S) (AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))

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1  FILE ADISCTI
3  FILE ANABSTR
2  FILE BIOBUSINESS
53 FILE BIOSIS
5  FILE BIOTECHABS
5  FILE BIOTECHDS
40 FILE BIOTECHNO
16 FILE CABA
26 FILE CANCERLIT
100 FILE CAPLUS
3  FILE CEABA-VTB
9  FILE DISSABS
15 FILE DDFB
14 FILE DDFU
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1  FILE EMBAL
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47 FILE MEDLINE
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21 FILE PASCAL
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46 FILE USPATFULL
2  FILE USPAT2
5  FILE WPIDS
5  FILE WPINDEX

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L1 QUE HOMOCYSTEI? (S) (AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))

FILE 'CAPLUS, GENBANK, EMBASE, BIOSIS, SCISEARCH, MEDLINE, USPATFULL, BIOTECHNO, TOXCENTER, LIFESCI' ENTERED AT 18:39:08 ON 21 JAN 2004

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L2      584 S HOMOCYSTEI? (S) (AHCY? OR (ADENOSYLHOMOCYST?(S) HYDROLAS?))
L3      1461 S HOMOCYSTEI? (S) (AHCY? OR SAH? OR (ADENOSYLHOMOCYST?(S) HYDROL
L4      45 S L3 (S) (VARIAN? OR MUTAT?)
L5      20 DUP REM L4 (25 DUPLICATES REMOVED)
L6      707 S L3 (S) (ASSAY? OR METH?)
L7      95 S L6 (S) (BINDI? OR AFFIN?)
L8      59 DUP REM L7 (36 DUPLICATES REMOVED)

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